COMING OFF A PROTON PUMP INHIBITOR

TAPERING

For patients who have made positive lifestyle changes and are less likely to need continued chronic acid suppression, it can be difficult to come off PPIs. They often cause rebound hyperacidity, even if the underlying condition has resolved.[1] Figure 1 shows symptoms scores for dyspepsia in asymptomatic people given 40 milligrams of pantoprazole for 6 weeks versus controls. Rebound dyspepsia lasted 10-14 days.[1]

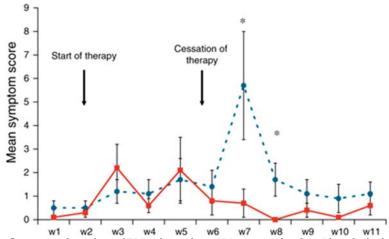


Figure 1. Symptoms of reflux in people without GERD when taking PPIs versus placebo.¹ Blue, dashed = Took PPI; Red, solid = Placebo group. Reprinted by permission from Macmillan Publishers LTD: American Journal of Gastroenterology, copyright 2010.

When counseling about discontinuing a PPI, let patients know that they will likely have symptoms of reflux for 10-14 days after they stop the medication. Fortunately, there are strategies to help calm reflux symptoms until rebound hyperacidity resolves.

BRIDGE THERAPY

The following therapies will not only increase success for discontinuing a PPI but also are therapeutic for gastroesophageal reflux disease (GERD).

- 1. **Focus on nutrition.** Common foods that should be avoided in those with GERD include alcohol, caffeine (coffee), chocolate, cow's milk, animal fat, and orange juice.
- 2. Slowly taper off the PPI **over 2-4 weeks** (the higher the dose, the longer the taper).
- 3. While the taper is being completed, use the following for bridge therapy to reduce the symptoms of rebound hyperacidity.
 - Encourage regular aerobic exercise.
 - Encourage a **relaxation technique** such as deep breathing. This enhances vagal stimulation, encouraging digestion, and aids adequate peristalsis. For more information, refer to "Power of the Mind" and "Mindful Awareness."
 - Consider acupuncture 1-2 times per week.[2]

- Add one or more of the following dietary supplements:
 - o **Deglycyrrhizinated licorice** (DGL), 2-4 380 tbstablets before meals or sucralfate (Carafate) 1 gram before meals.
 - o **Slippery elm**, 1-2 tablespoon of powdered root in water or 400-500 milligrams capsules or 5 ml of a tincture three to four times daily.
 - A combination botanical product, **Iberogast** 1 ml three times daily.[3]
- 4. If the patient is successful with stopping the PPI, slowly taper off the above (except for positive nutritional changes, exercise, and stress management). If symptoms return, start again with one of the above or an H2 blocker (e.g., Ranitidine, 150 milligrams twice daily). If symptoms are still difficult to control, consider adding the PPI back at the lowest effective dose.
 - Note: PPIs shut off all three acid pumps and H2 blockers are partial inhibitors of acid secretion. So if long-term treatment is needed, H2 blockers allow better absorption of nutrients than PPIs.
- 5. Ideally it would be beneficial to avoid long-term acid suppression if possible since this can be associated with malabsorption of vitamin B12[4] and iron,[5] increased risk of community-acquired pneumonia,[6] hip[7,8] and spine[9,10] fractures, and *C. diff* diarrhea.[5,11] For more details, refer to "Gastroesophageal Reflux Disease (GERD)".

AUTHOR

"Coming Off a Proton Pump Inhibitor" was written by <u>David Rakel</u>, MD (2014). Sections were adapted from "<u>Gastroesophageal Reflux Disease</u>" by <u>David Kiefer</u>, MD, <u>David Rakel</u>, MD, and <u>Rian Podein</u>, MD.

This Whole Health tool was made possible through a collaborative effort between the University of Wisconsin Integrative Health Program, VA Office of Patient Centered Care and Cultural Transformation, and Pacific Institute for Research and Evaluation.

REFERENCES

- 1. Niklasson A, Lindstrom L, Simren M, Lindberg G, Bjornsson E. Dyspeptic Symptom Development After Discontinuation of a Proton Pump Inhibitor: A Double-Blind Placebo-Controlled Trial. *Am J Gastroenterol.* 2010.
- 2. Dickman R, Schiff E, Holland A, et al. Clinical trial: acupuncture vs. doubling the proton pump inhibitor dose in refractory heartburn. *Aliment Pharmacol Ther*. 2007;26(10):1333-1344.
- 3. Melzer J, Rosch W, Reichling J, Brignoli R, Saller R. Meta-analysis: phytotherapy of functional dyspepsia with the herbal drug preparation STW 5 (Iberogast). *Aliment Pharmacol Ther.* 2004;20(11-12):1279-1287.
- 4. Lam JR, Schneider JL, Zhao W, Corley DA. Proton pump inhibitor and histamine 2 receptor antagonist use and vitamin B12 deficiency. *Nat Med.* 2013;310(22):2435-2442.

- 5. Wilhelm SM, Rjater RG, Kale-Pradhan PB. Perils and pitfalls of long-term effects of proton pump inhibitors. *Expert Rev Clin Pharmacol.* 2013;6(4):443-451.
- 6. Laheij RJ, Sturkenboom MC, Hassing RJ, Dieleman J, Stricker BH, Jansen JB. Risk of community-acquired pneumonia and use of gastric acid-suppressive drugs. *JAMA*. 2004;292(16):1955-1960.
- 7. Corley DA, Kubo A, Zhao W, Quesenberry C. Proton pump inhibitors and histamine-2 receptor antagonists are associated with hip fractures among at-risk patients. *Gastroenterology*. 2010;139(1):93-101.
- 8. Gray SL, LaCroix AZ, Larson J, et al. Proton pump inhibitor use, hip fracture, and change in bone mineral density in postmenopausal women: results from the Women's Health Initiative. *Arch Intern Med.* 2010;170(9):765-771.
- 9. Kwok CS, Yeong JK, Loke YK. Meta-analysis: Risk of fractures with acid-suppressing medication. *Bone.* 2010.
- 10. Insogna KL. The effect of proton pump-inhibiting drugs on mineral metabolism. *Am J Gastroenterol.* 2009;104:S2-S4.
- 11. Cunningham R, Dale B, Undy B, Gaunt N. Proton pump inhibitors as a risk factor for Clostridium difficile diarrhoea. *J Hosp Infect.* 2003;54(3):243-245.